



Risk Images and Risk Mapping

Perspectives on Modeling Risk

Regional Risk and Risk to the Regions. Vilnius 30-31 January 2018

Preben H. Lindøe

Professor emeritus

Universitetet i Stavanger

uis.no

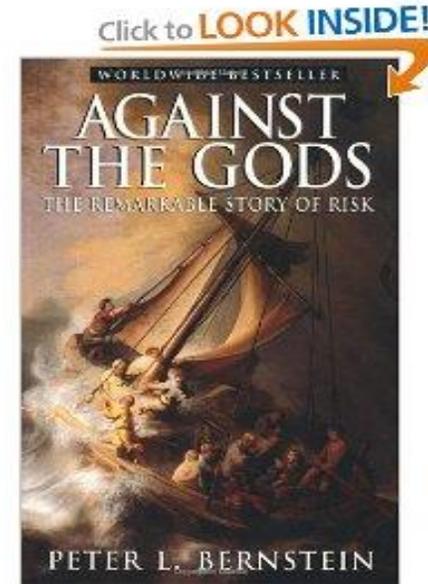
06.02.2018



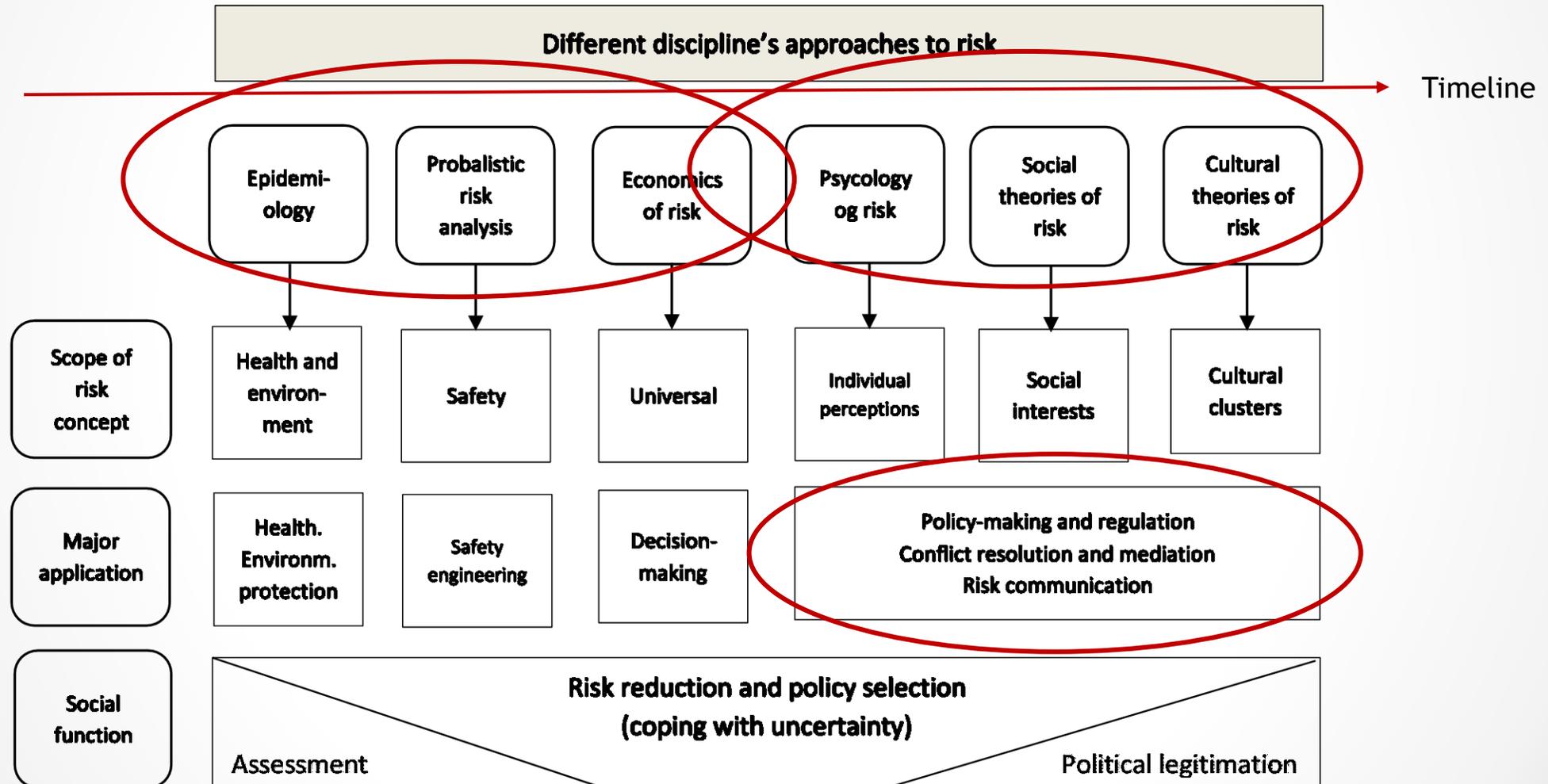
University
of Stavanger

Introduction

- The remarkable history of risk (Bernstein)
- Ongoing debate on concepts:
 - Hazards, Risk, Uncertainty, Safety, Security.....
- Different disciplines, Risk Images and “Risk languages”
- The power of modelling risk: From formulas to metaphors
 - The Janus face of risk: Mapping and modelling risk as loss and opportunities
 - Risk-in-relationship: An Actor-Netwok perspective



From the textbook (I): Disciplines approach to risk



From the textbook (II): Definitions of risk expressed

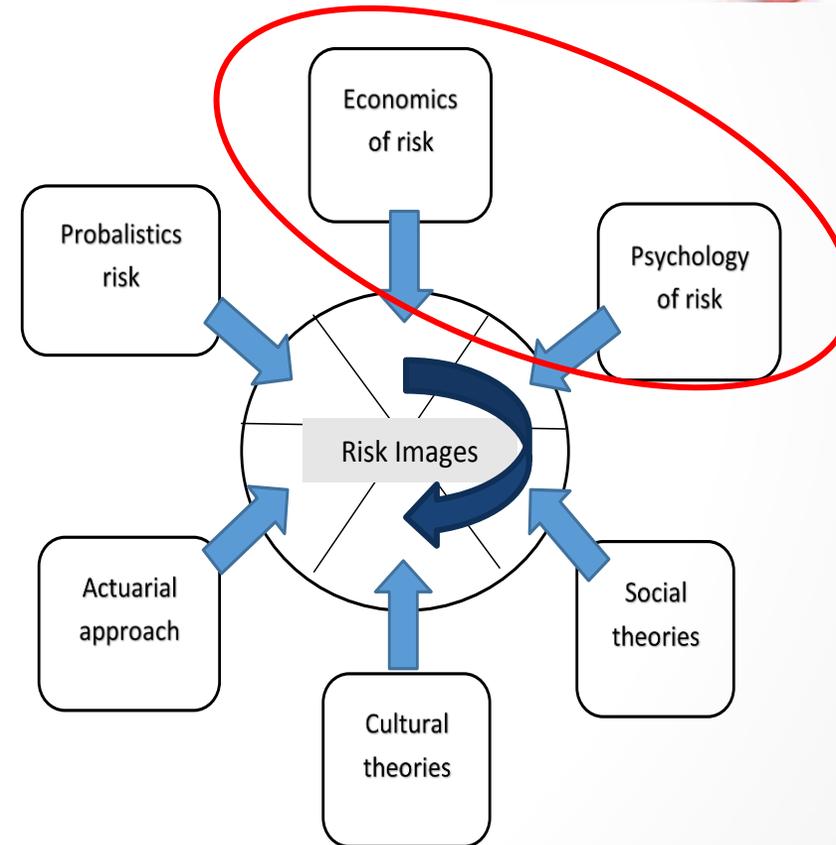
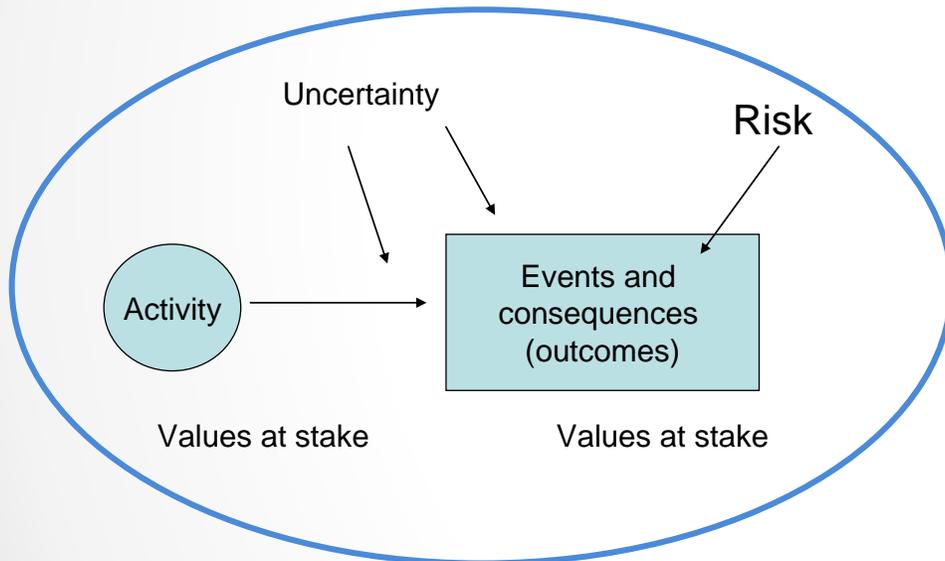
by means of *probabilities* and *expected values*:

- equals the expected loss
- the probability of an adverse outcome
- a measure of the probability and severity of adverse effects
- the combination of probability of an event and its consequences)
- the scenario, the probability of that scenario and its consequences

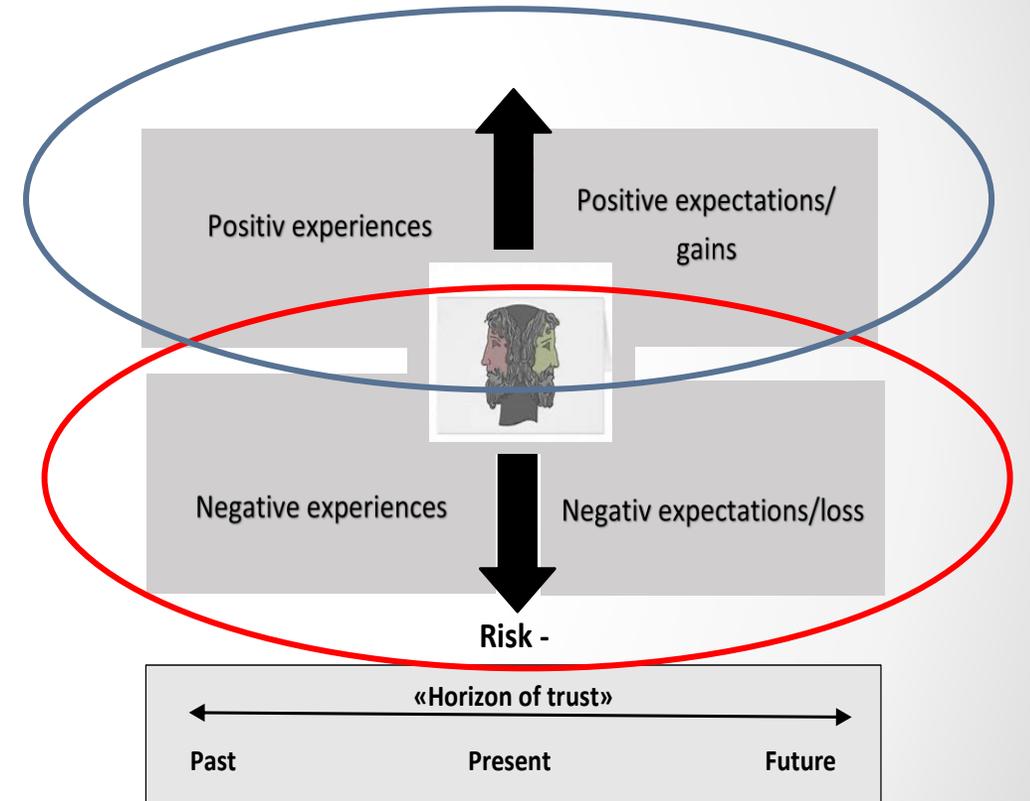
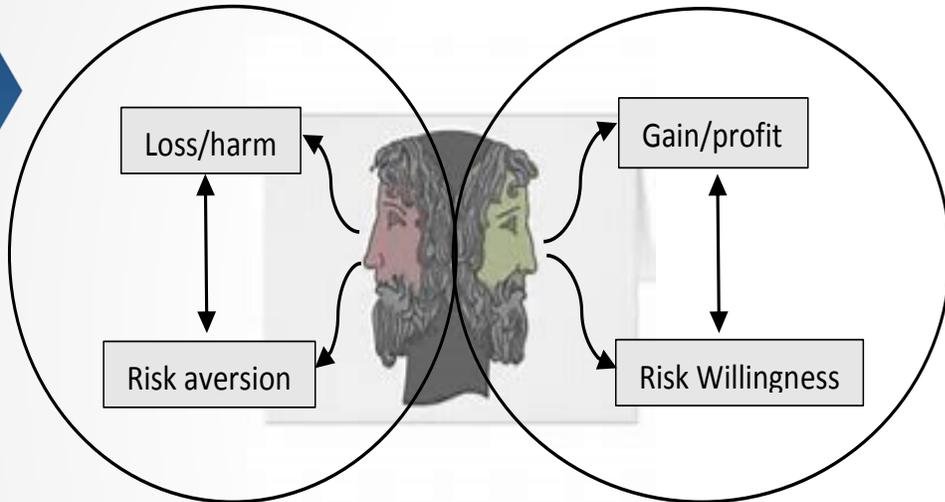
through *events/consequences* and *uncertainties*:

- equal to the two-dimensional combination of events/consequences and associated uncertainties
- refers to uncertainty of outcome, of actions and events
- **a situation or event where something of human value (including humans themselves) is at stake and where the outcome is uncertain**

A kaleidoscope-perspective



The Janus face: Negative risk vs Positive risk



In [ancient Roman religion](#) and [myth](#), Janus is the god of beginnings, gates, transitions, time, duality, doorways, passages, and endings; having two faces, looking to the future and to the past.

Risk modelling of harm and loss: The risk matrix (I)

Qualitative Descriptors		Likelihood				
		Rare	Unlikely	Possible	Likely	Certain
Quantitative Scales		< 0.0001	0.001	0.01	0.1	1
Consequence	Very High Severity	50,000,000				
	High Severity	5,000,000				
	Medium Severity	500,000				
	Low Severity	50,000				
	Very Low Severity	< 5000				



Figure 1: Example of a 5x5 risk matrix using log-log quantitative scales.

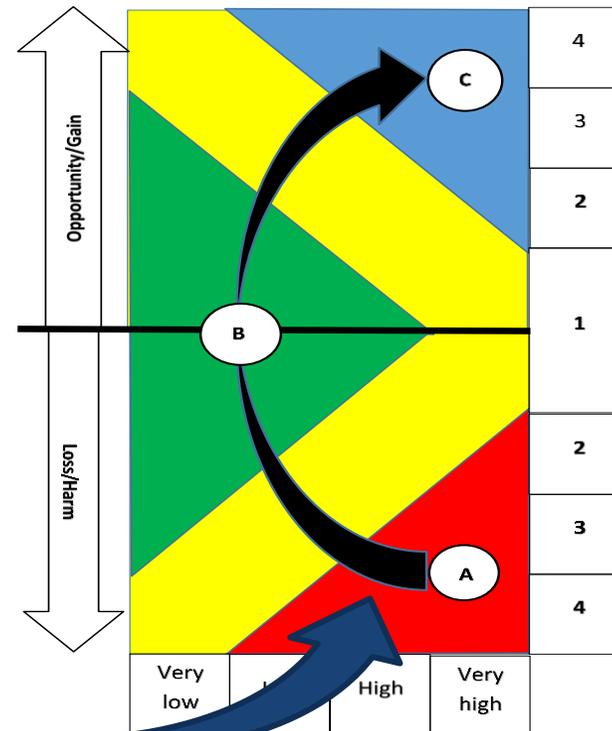
The (remarkable) history of risk matrix:

Silvia Jordan, Hermann Mitterhofer and Lene Jørgensen. The interdiscursive appeal of risk matrices: Collective symbols, flexibility normalism and the interplay of 'risk' and 'uncertainty' in *Accounting, Organization and Society* (2016), pp 1-22

Risk modeling including opportunities and gain: The risk matrix (II)

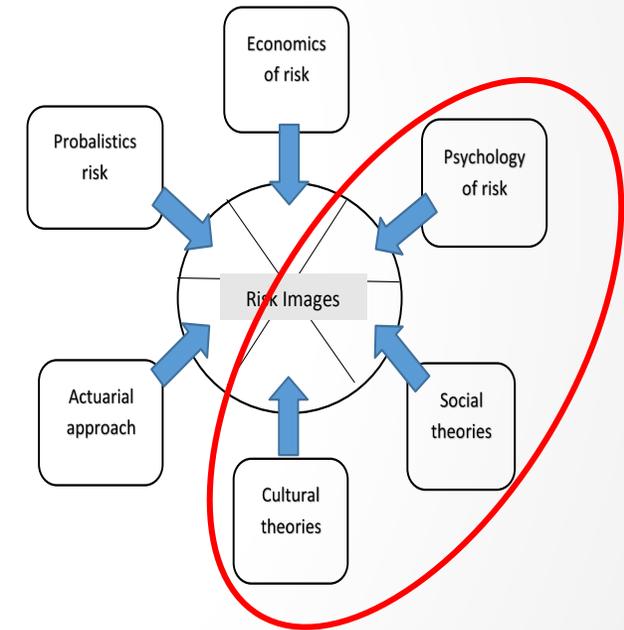
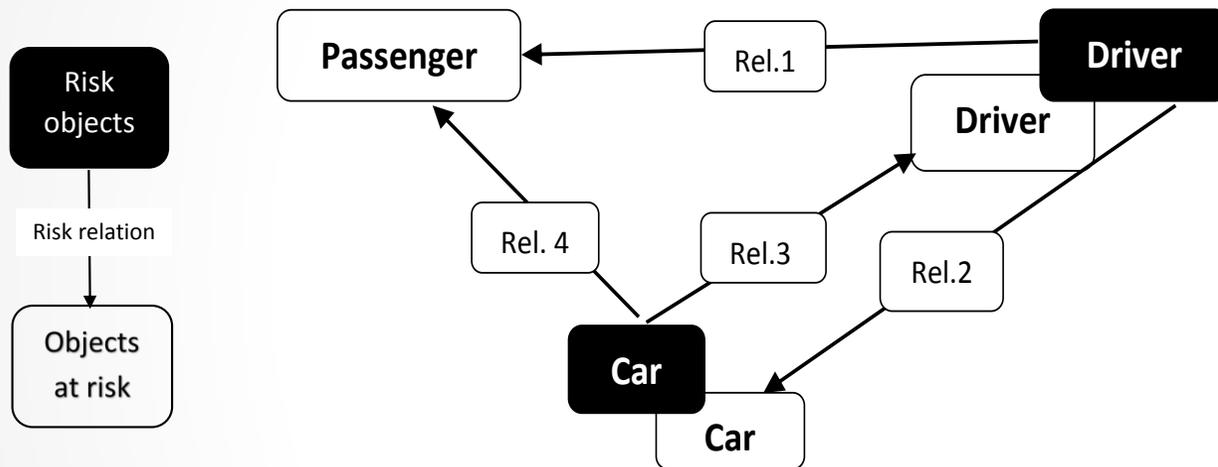
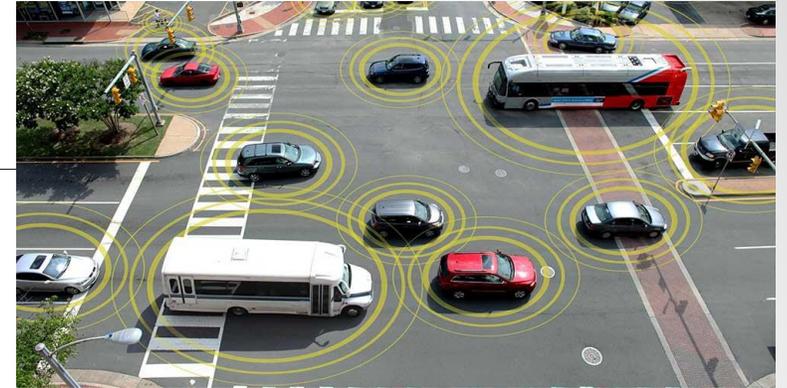
Qualitative Descriptors		Likelihood				
		Rare	Unlikely	Possible	Likely	Certain
Quantitative Scales		< 0.0001	0.001	0.01	0.1	1
Consequence	Very High Severity	50,000,000				
	High Severity	5,000,000				
	Medium Severity	500,000				
	Low Severity	50,000				
	Very Low Severity	< 5000				

Figure 1: Example of a 5x5 risk matrix using log-log quantitative scales.



Factors and means *increasing* opportunities and gains may be different from factors and means *reducing* harm and loss

Actor-Netwok perspective (I)



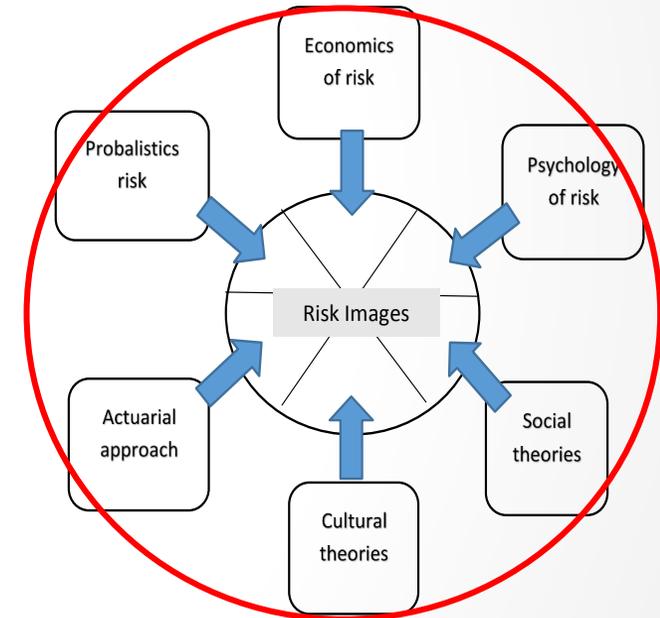
Niklas Luhman: When he is passenger and his wife drives the car, he is in danger. However, if he is sitting at the wheel himself, he runs a risk.

Peter Kemp: if Professor Luhman is a bad driver, he is also a danger, both for himself and others.

Boholm, Å & H. Corvellec: A relational theory of risk. *Journal of Risk Research*. Vol. 14. No 2. 2011, 175-190.

Actor-Netwok perspective (II)

	Level	Actors	Relevant disciplines
1	Global International	UN, EU, Global Standardization (ISO)	Political Science, Social Economy, Law, Sociology, etc. Technology, Business, Management Psychology, Communication
2	Central Administration	Parliament, Government, Ministries, Directorate, Public Road Administration	
3	Regional/Local	County, Municipality	
4	Regulator	Supervision, Police	
5	Industry/Enterprises	Transport Companies, Car producers, Entrepreneurs, Consultants	
6	Individuals	Motorist, Passangers, Cyclists, Pederstriants	



Summary

- Historical causes and competition between «hard» and «soft» scientific disciplines are reflected in approaches and methods within mapping and modelling of risk
- A kaldeioscopic perspective gives a broader and deeper understanding of «risk images» and modelling.
- Two examples are
 - The extended Risk Matrix
 - The Actor-Network perspective on «risk-in-relations»

Preben H. Lindøe (2018) Risiko, tillit og kontroll. Et aktørperspektiv på risikostyring. Gyldendal akademisk. Forthcoming



Thanks for your attention

